REMARKS

Applicants will address each of the Examiner's objections and rejections in the order in which they appear in the Office Action.

Drawings

Initially, the Examiner accepts the prior changes made to the drawings but requests that the specification be amended to be consistent with the drawings. Applicants have now done so.

The Examiner also objects to the drawings under 37 CFR §1.83(a). In particular, the Examiner states that the drawings must show every feature of the invention specified in the claims.

Applicants respectfully submit that the drawings do show the claimed features. For example, specific layers of the light emitting element in the claims are referenced by numeral in the drawings, such as, an anode (102 in Figs.1A-C), wirings (703 or 705 in Figs.7C-D) interposed between the anode and an insulator (101 in Fig. 1B or 1C), an insulating film (104 in Fig.1B or 1C), a cathode (107 in Fig.1C) and a luminescent material (106 in Figs.1A-1C) interposed between the anode and cathode, with a COG system (Fig.2). Accordingly, it is requested that this objection be withdrawn.

Claim Objections

The Examiner also objects to Claims 1, 13, 34, 39 and 44 for informalities therein. Applicants have amended each of these claims to correct the informalities therein and to place the claims in a standard U.S. form. It is respectfully submitted that the claims are no longer informal, and it is requested that this objection be withdrawn.

Claim Rejections - 35 USC §112

The Examiner also rejects Claims 34-38 under 35 USC §112, first paragraph, as failing to comply with the enablement requirement. In particular, the Examiner alleges that a "COG system is not disclosed in the specification to properly enable any person skilled in the art to make the light emitting display." This rejection is respectfully traversed.

The Examiner notes that page 9 of the specification of the present application refers to a "COG system." Applicants have amended this part of the specification to state "Chip On Glass (herein COG) system." "COG" is a common and well known abbreviation in the art for Chip on Glass. In support thereof, Applicants are submitting web pages of IDTech and BRAEMAC showing that those in the art are well aware of the meaning of "COG."

Accordingly, it is requested that that this rejection be withdrawn.

Claim Rejections - 35 USC §102

The Examiner also rejects Claims 1, 4 and 6 under 35 USC §102(b) as being anticipated by Ito et al. This rejection is respectfully traversed.

In order to advance the prosecution of this application, Applicants have amended independent Claims 1 and 13. In particular, these claims now recite that a cathode is formed over the insulating film. In Ito, the alleged insulating film 6 is formed over the cathode 5. Hence, Ito does not disclose or suggest the claimed invention. Accordingly, it is requested that this rejection be withdrawn.

Claim Rejections - 35 USC §103

Claims 2, 3, 30 and 31

The Examiner also rejects Claims 2, 3, 30 and 31 under 35 USC §103(a) as being unpatentable over Ito. This rejection is respectfully traversed.

These dependent claims are patentable over the cited references for at least the reasons discussed above for the independent claims. Accordingly, it is requested that this rejection be withdrawn.

Claims 13-16, 18 and 32-48

The Examiner also rejects Claims 13-16, 18 and 32-48 under 35 USC §103(a) as being unpatentable over Shinoda et al. This rejection is respectfully traversed.

In order to advance the prosecution of this application, Applicants have amended independent Claims 13, 34, 39 and 44. In particular, these claims now recite that a cathode is formed over the insulating film. In Shinoda, the alleged insulating film 17 is formed over the cathode 22. Hence, Shinoda does not disclose or suggest the claimed invention. Accordingly, it is requested that this rejection be withdrawn.

Conclusion

It is respectfully submitted that the present application is now in a condition for allowance, and it is requested that it be allowed.

If any further fee should be due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

Dated: February 6, 2004

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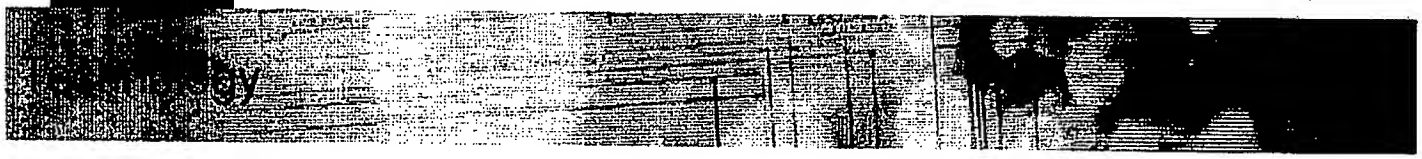

Abbreviations/Technical term

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Term	Description
A	
Active Area/Effective Area	In the viewing area of the LCD glass, the dimensions of the perimeter of the conductive area.
Active Matrix Display	A type of display which uses Thin-Film Transistors (TFT) to control each pixel individually. Active Matrix Displays offer higher contrast ratios, wider viewing angles, and faster response times than Passive Matrix Displays.
Aperture Ratio	The actual light-transmitting area against the theoretical sub-pixel size calculated with active area and resolution.
Aspect Ratio	The relationship of width and height. When an image is displayed on different screens, the aspect ratio must be kept the same to avoid 'stretching' in either the vertical or horizontal direction. For most current monitors, this ratio is 4:3. For HDTV, the ratio will be 16:9 or 16:10.
B	
Backlight	Some LCD displays are illuminated by the use of separate light sources or backlights that are built into the unit behind the LCD panel.
Bezel	A frame of plastic or metal, fitting over the LCD glass, to protect the edges of the glass, ESD(Electro Static Discharge), and to reinforce LCD structure.
Brightness	The attribute of visual perception in accordance with which an area appears to emit more of less light. (Luminance is the recommended name for the photo-electric quantity which has also been called brightness.)
C	
CCFL	COLD CATHODE BACKLIGHT. a type of fluorescent backlighting or edge lighting.
CELL GAP	The space containing liquid crystal fluid between the two pieces of glass.
COG	CHIP-ON-GLASS. A new technology that mounts the LCD driver to the contact edge of the LCD glass.
Contrast Ratio	The difference in luminance between all-white divided by the brightness of an all-black.

- Home
- Profile
- Line Card
- Contact Information
- News
- Glossary
- Job Vacancies
- [redacted]
- Memories
- RF & Microwave
- [redacted]
- [redacted]
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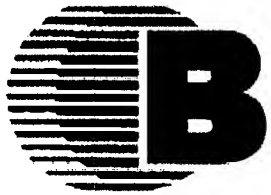

BRAEMAC

LCD MODULE OVERVIEW

CHARACTER (DOT MATRIX)

Our Character (5 x 7, 5 x 8 or 5 x 11 dot-matrix) type Modules offer plenty to choose from with 8x2 to 40x4 characters and character sizes from 3.63mm to 14.54mm.

A choice of Standard backlight options are offered including - low-power electroluminescent, LED or CCFL backlights, Also low profile edge light options for thinner displays and Reduced cost are offered on selected models.

Our product range is available with Standard or wide-temperature (-20°C to +70°C) operation. All parts include a KS066 compatible controller, which can be ordered for- Standard, European, Cyrillic, Russian, or Greek font options.

With a comprehensive range of different combinations in our regular range, we have the display for your application. If we have no regular range products to suit your requirements, we can always fully

or semi- customise them for you!

MONO-GRAPHIC

Our Mono - Graphic type Modules offer plenty to choose from – 55x32 to 320x240 pixel displays.

A choice of Standard backlight options are offered including - low-power electroluminescent, LED or CCFL backlights, Also low profile edge light options for thinner displays and Reduced cost are offered on selected models.

Most modules have the controller included and offer at the very least, Row and column drivers. Our product range is available with Standard or wide-temperature (-20°C to +70°C) operation.

Various polarisor and Liquid modes are offered including HTN, STN, FSTN, In both positive (Blue on white –STN / black on White – FSTN) or negative (White on Blue – STN/ White on Black – FSTN).
With a comprehensive range of different combinations in our regular range, we have the display for your application. If we have no regular range products to suit your requirements, we can always fully

or semi- customise them for you!

Colour Graphic

Termed CSTN – Colour super twisted Nematic displays.

With rise and fall times getting increasingly faster and with around 7 frames per second currently available, these displays offer a cheaper alternative to small TFT applications where limited colour is not an issue. Our range offers a minimum of 256 colours, with 4096 colours as standard.

For mobile applications we can offer 65k colours with an on board controller. Backlighting features CCFL or White LED.

We can also offer a selection of displays with a Transflective colour suitable for all ambient light conditions.

Full Customised displays can be supplied upon request.

COG – Chip on Glass – COG (Abbreviation)

This is the most cost effective of all mounting options for the built in controller/driver displays.

As the description implies, the controller is Bonded directly onto the LCD Glass.

This Bonding Method is ideal for applications that require a high volume and low cost.

Interface between the Glass and the Equipment is made through a FFC (flat flexible Cable) or FPC (Flexible Printed Cable). The cable is heat-sealed to the Glass and connection to the equipment, made Via a ZIF (zero insertion force) socket.

Offers a very low profile as only the glass thickness applies (reflective models).

COB - Chip on Board- COB (Abbr.)

This is the most common type of mounting option for the Controller or Driver chips.

The composition of these Displays would be with the controller or Driver IC bonded directly on to the PCB. The LCD Glass is mounted via a conductive rubber strip and held together by a bezel.

This is effectively the most expensive type of display but allows the integration of external components outside that of the controller.

Customisation is relatively simple and mounting is straightforward.

COF - Chip on Flexible film – COF (Abbr.)

Possibly the most expensive to tool, but almost as cost effective as COG, The composition of this type of display is a Flexible Circuit, which enables the controller/driver to be bonded directly to the flex as well as the various resistors and capacitors required for the controller function. The Flex is then Heat-sealed to the matching contacts on the LCD Glass.

Initial tooling can be more expensive than COG, however the overall cost per unit remains very competitive.

Interface would be via connections on the Flex directly to a ZIF socket.

TAB - Tape Applicated Bonding – TAB (Abbr.)